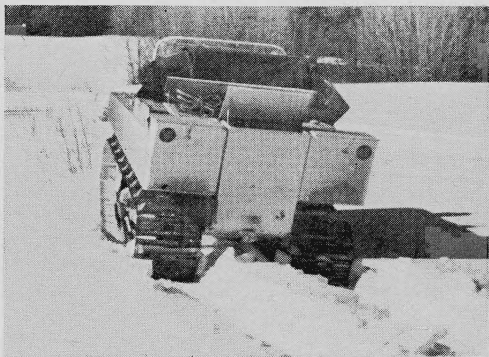




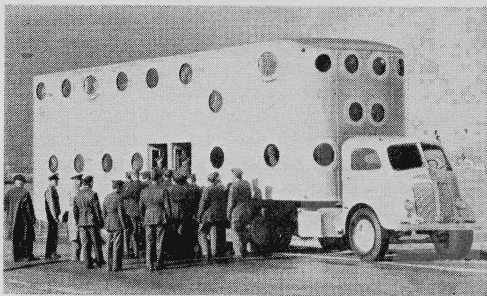
SNOW WEASELS, originally designed for Army use in Alaska, give promise of many civilian uses, particularly in mountainous regions. The U. S. Forest Service already is employing two for routine travel in the high Rockies. Other foreseeable uses include rescue of stalled motorists, carrying help to snowbound ranchers, and hauling feed to starving livestock in isolated grazing areas. Loaded to its capacity of 1,260 lb., this two-

AUTO IDEAS

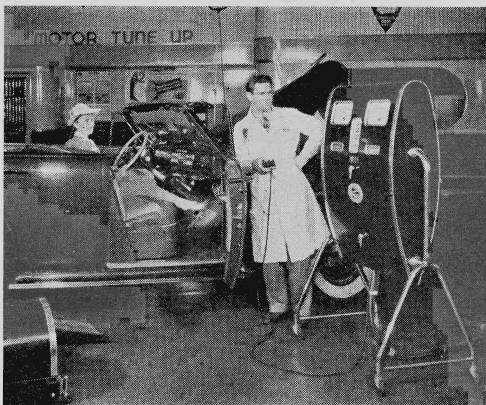


passenger cargo carrier sinks only 18" in light snow, and even under the worst conditions it beats struggling along afoot on skis or snowshoes. Capable of speeds up to 25 m.p.h., it overcomes most difficulties of terrain, ambling up a 45-deg. grade and over vertical obstructions as high as 19". Although designed for snow travel, it fords rivers less than 44" in depth on its own power and in deeper water becomes a boat.

A GIANT BUS capable of carrying 250 persons, 100 seated and the rest standing, was built during the war by the White Motor Company for troop transportation in the wide expanses of an Army camp. With port-hole-type windows for both the lower and upper decks, the big transport looks like some fantastic land battleship. Although the vehicle is 15' high, the height is not particularly noticeable because the body is 2' wider than usual. The huge body was constructed on a rebuilt transport chassis.



CHECKING A CAR for defects in the power plant can be accomplished in five to eight minutes with the "Moto-Mirror," a dynamometer produced by the Clayton Manufacturing Company, of Alhambra, Calif., for service-station use. It consists of two major units, a cabinet containing recording instruments and a frame on which the rear wheels of the car are placed to operate transverse rollers. The frame embraces a hydraulic power-absorption unit fitted with solenoid remote-control valves, an electric induction tachometer, and a torque recorder. Simulating road conditions and testing the car throughout its driving range, the dynamometer indicates what adjustments are needed to bring the vehicle to top performance.



USEFUL AUTO HINTS

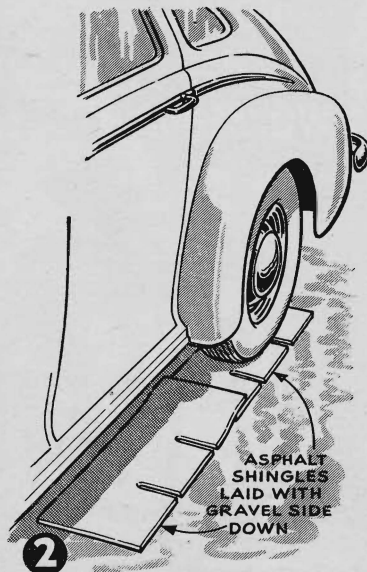


1 A BACK-SEAT PLAY PEN will give a baby room to move around in the rear of a car without falling off the seat. It's formed by sliding in a plywood-topped table the exact height of the back seat and shaped to conform to the curve at the back of the front seat. A play-pen pad or blankets cover it. There is storage space underneath.—L. P. LA P.

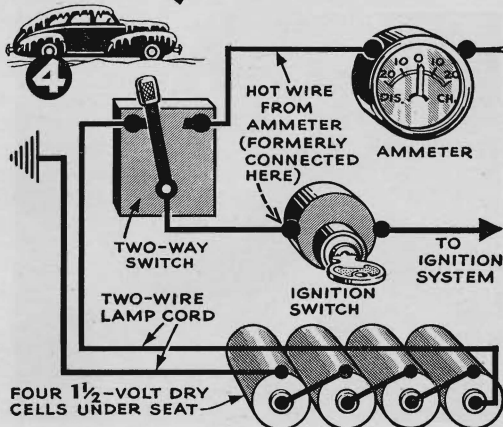
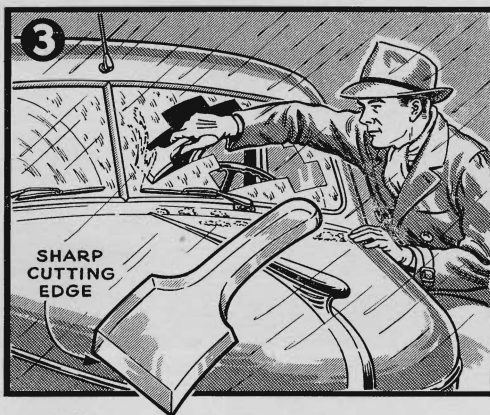
2 ASPHALT SHINGLES laid gravel-side down on ice or in a rut will give a car traction to get a start. They are more compact and less messy to carry in the trunk than sand or ashes.—B. H.

3 ICY WINDSHIELDS are cleaned quickly and efficiently with a sharp-edged tool sawed to the shape shown from a thick scrap piece of plexiglas or lucite. The cutting edge can be formed on a disk sander or beveled with a file.—E. L.

4 A HOT SHOT TO THE IGNITION will start a car on extremely cold mornings when oil is so stiff that most of the battery output is consumed in turning over the starter motor. The extra juice is furnished by four 1½-volt dry cells installed under the seat and connected through a two-way switch to the ignition circuit as shown in the drawing. Flip the switch to the ammeter side when the engine starts. A switch from the control panel of an old bus, if available, will provide spring action to close the storage-battery connection when the hot-shot battery is not held "on" by hand. Mount it on the dash.—L. C.



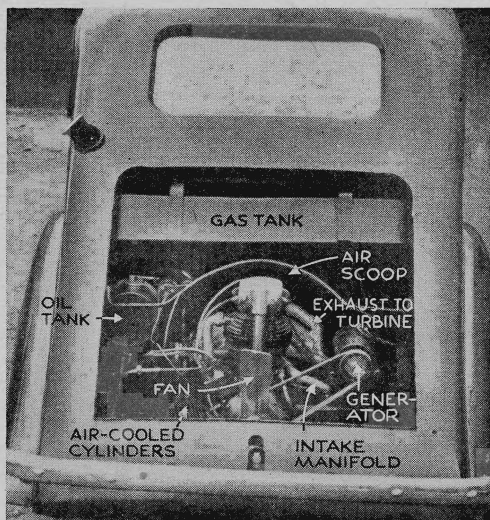
Drawings by STEWART ROUSE



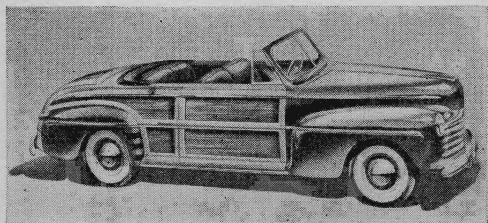
AUTO IDEAS



ENGLISH MOTORISTS soon may be able to buy a light car for only \$400. William Denis Kendall, who designed the four-passenger model above, says he will employ mass-production methods at his factory in Grantham, England, to keep the price within that figure. In tests, the three-cylinder radial air-cooled engine developed 20 hp., propelled the car at a maximum speed of 60 m.p.h., and gave 40



miles to a gallon of gasoline. The designer claims that power is increased through a "turbine" method of bringing the heat and pressure of the exhaust gas into play. Built with no frills, not even an extra wheel, the car weighs approximately 1,200 lb. A roomy luggage compartment is located under the hood and a single headlight is centered in a dummy radiator.

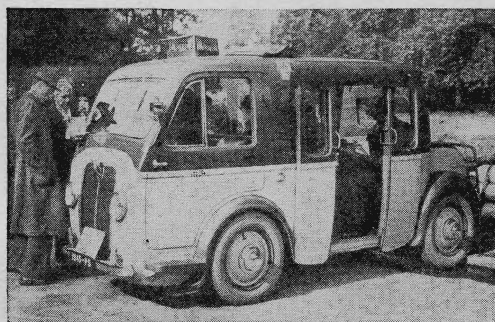
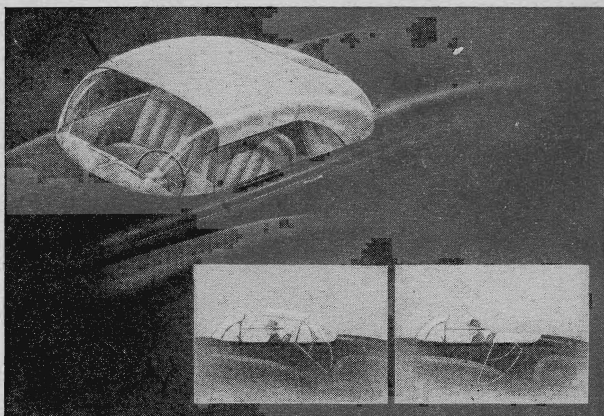


STATION WAGON and convertible both contribute some of their features to a sport-type car, shown at the left, which the Ford Motor Company has announced for limited production this year. Traditional wooden panels of the station wagon are applied over a steel frame, while a power-operated top and close-coupled seating are borrowed from the convertible coupe.

SPORT CYCLE. A small power cycle developed by the Wyse Laboratories, of Dayton, Ohio, is equipped with a centrifugal hydraulic transmission that eliminates gear shifting. Given the trade name of "Wyse Cycle," the 245-lb. vehicle might be considered a cross between a motorcycle and a scooter, for it has some characteristics of each. In the photo at the right, the smiling miss is seated on a test model which differs in several respects from the designer's original conception shown in the inset. In tests, the cycle traveled at speeds up to 56 m.p.h. and gasoline consumption averaged 70 miles per gallon. Now in production, the cycle may be obtained with either a 3- or a 4-hp. engine. Aircraft-type wheels and tires are used.



A FOLDING HARD TOP, designed by the Motor State Products Company, of Detroit, lowers automatically at the touch of a button. The curved back section drops out of sight behind the seat and the front also swings back into place to form a closed deck. When the top is up, its smooth contours match the body lines. The curved windshield, formed of safety glass, provides unobstructed vision, and there's an extra-large rear window. While this top design is limited to single-seaters, others for two-seat cars may be produced in the future on similar lines.



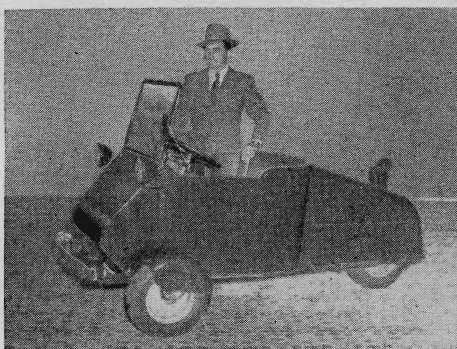
ABOUT FACE! If you should call a cab when next you visit Paris, the vehicle that arrives may confuse you by apparently running backward. A close examination of the photo at the left will indicate how such a misunderstanding might occur. This vehicle, chosen at an automobile exposition in the French capital as "the taxi of tomorrow," faces to the left (in case you're still confused) and the hood-like extension at the other end actually is a luggage compartment. The cab carries six passengers. A sign on the top shows when it is free.

HOME-BUILT CARS may not have all the trimmings of the commercial product, but they afford the builder a lot of fun and a chance to try out his own pet ideas. Here are two examples of such improvisation.

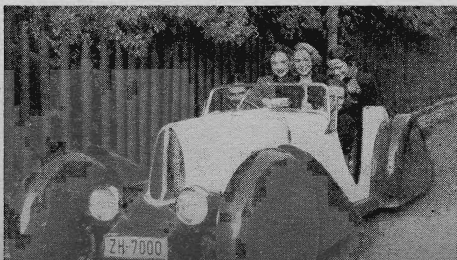
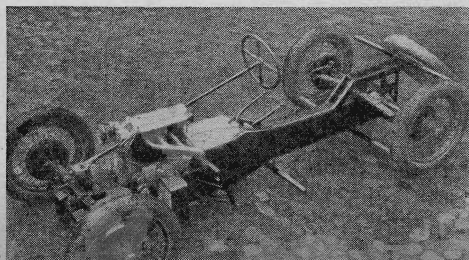
At the right is a two-passenger vehicle devised by Robert E. Taylor, of Bridgeport, Conn., from a Cushman motor scooter. Powered by a 4-hp. engine, it is capable of 30 m.p.h., has two speeds forward and a storage battery to operate an electric starter, lights, and horn. The steering wheel was taken from a motorboat.

As reported in "GM Folks," employee publication of the General Motors Corporation, the car shown in the photos below was built by Walter Wyss in his native Switzerland in 1935. Wyss now is an engineer with the Chevrolet Motor Division in Detroit.

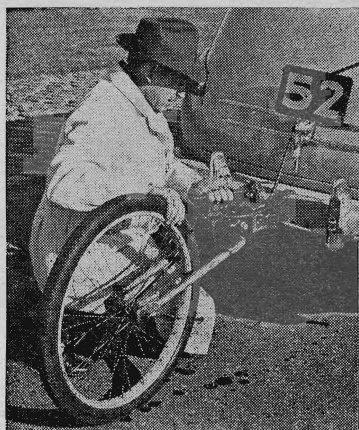
The second of two cars that he built be-



fore coming to the United States, this one had a single-beam frame, a radiator on each side of the 4-cylinder engine, and four speeds forward. It could attain a speed of 85 m.p.h. The streamlined front fenders were shaped to the wheels and moved with them when the car was steered.

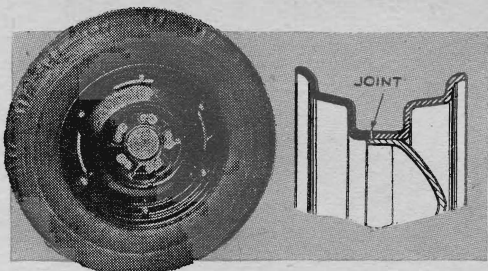


AUTO IDEAS



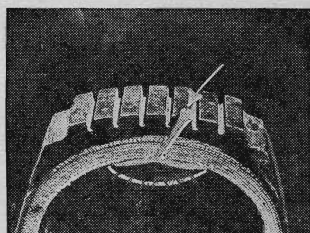
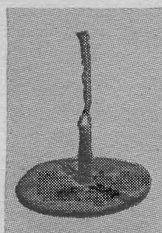
Hitched behind the car, this fifth wheel checks speedometer accuracy.

Right, a cobblestone course quickly brings out any squeaks or rattles.



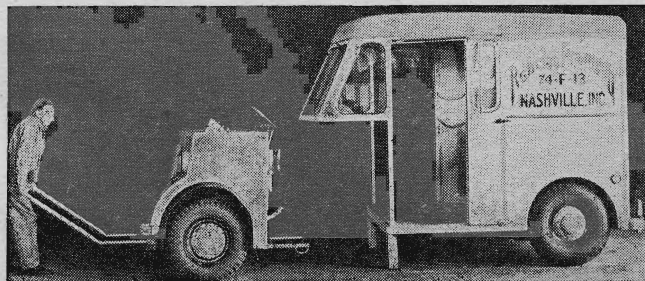
A TWO-PART RIM on an auto wheel patented by Casimiro Ferro, of Staten Island, N. Y., is designed to eliminate the necessity of prying a tire over the flanges. The rim is divided around the circumference of its drop center, the outer section and the web of the wheel being one piece. Bolts through the rim and web permit easy removal.

RUBBER RIVETS have been developed by the J. W. Speaker Corp., of Milwaukee, Wis., to seal small holes in a tire. A twisted-wire "needle" thrust through the hole is pulled until a rubber stem on the rivet stretches and also comes through, drawing a circular base against the inside of the casing. When the wire is removed, the stem expands.

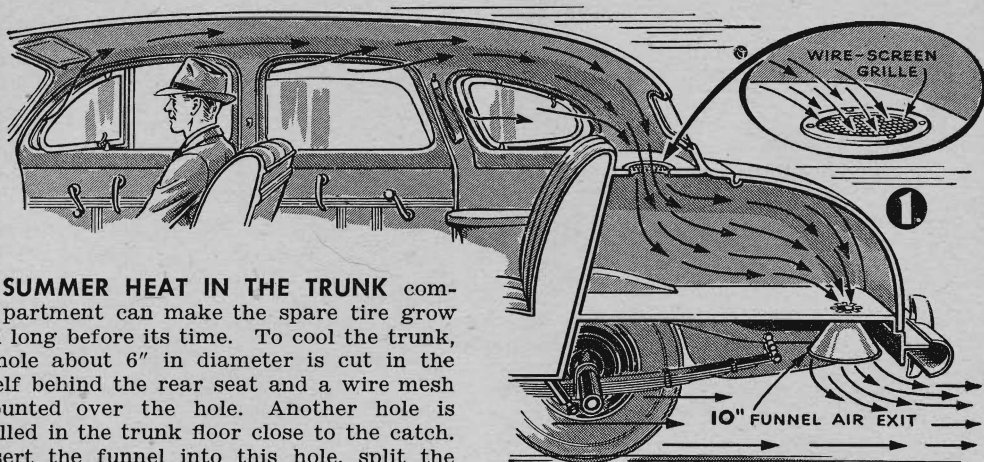


YOU HITCH THE MOTOR to this front-wheel-drive truck the way old-timers used to hitch a horse to a delivery wagon. It's not necessary to unhitch at night, of course, as

in the case of Old Dobbin, but when the motor needs servicing or trouble develops, another can be quickly substituted. This feature will enable the owner of a fleet of such trucks to keep all in constant service if he has spare power units on hand. Easily detachable, the unit includes a 4-cylinder 60-hp. engine, steering gear, and all operating controls. Known commercially as the "Deliver-All," the truck is produced by the Marmon-Herrington Co., of Indianapolis, Ind. It maneuvers easily and can be operated from a standing or sitting position.

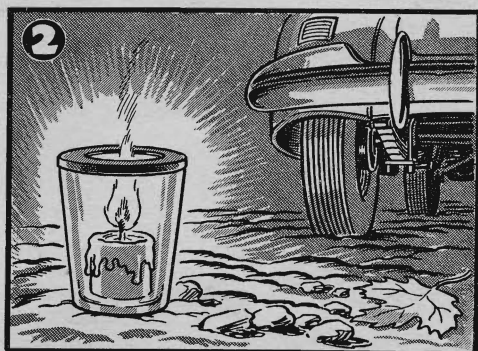


USEFUL AUTO HINTS



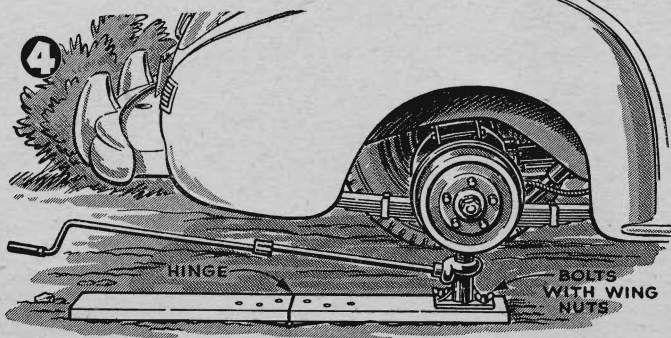
1 SUMMER HEAT IN THE TRUNK compartment can make the spare tire grow old long before its time. To cool the trunk, a hole about 6" in diameter is cut in the shelf behind the rear seat and a wire mesh mounted over the hole. Another hole is drilled in the trunk floor close to the catch. Insert the funnel into this hole, split the spout, and nail (or solder) the funnel in place to the floor.—S. S. PALESTRANT.

2 ROADSIDE FLARES are worth carrying even though you may rarely need them. A simple flare can be made from a jelly jar and a stubby candle. Cut a hole in the jar top and put in a candle.—KEN MURRAY.

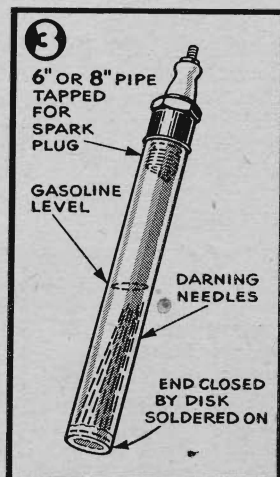


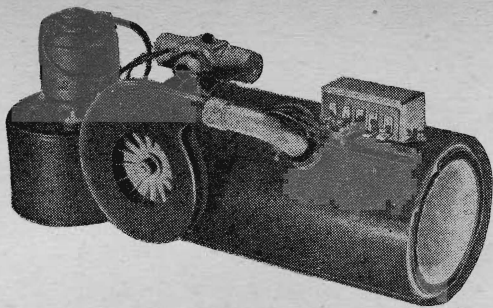
3 CLEANING SPARK PLUGS is as easy as shaking a stick with the gadget shown at the right, and done the same way. The pipe is tapped at one end to fit the plugs, and closed at the other. Put in some darning needles and a little gasoline and shake briskly.—I. J. STRETTON.

4 FIXING A FLAT when you have an axle jack usually means reaching far under the car. One way to avoid this is to bolt the jack to a narrow board, or to one of two boards hinged together to make it easier to stow them in the tool compartment. The hinge can be placed facing down as shown here, or up.—D. K. ABELS.



Drawings by STEWART ROUSE



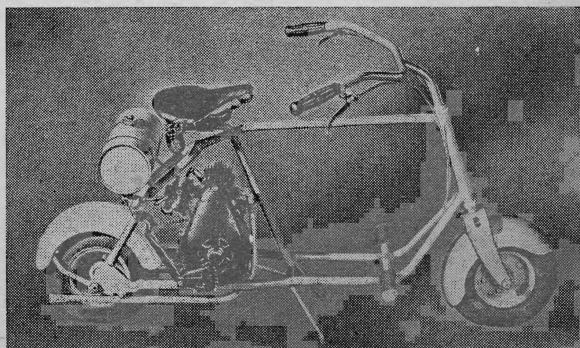


AUTOMOBILE HEATERS haven't been in the "new ideas" category for many years. The "South Wind" Heater (above), made by Stewart-Warner Corp., is new. It's mounted under the hood, and has an air intake near the radiator. The heater burns gasoline to warm the air, which is sent back through ducts to outlets at the windshield and under the front seat.

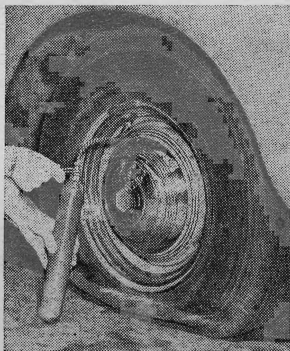
1946 ROTZELL SEDAN is the answer by Edward P. Rotzell, Philadelphia mechanic, to the shortage of new cars. He built this low-slung job from parts of half-a-dozen makes. Here he's off through what once was the window of his shop, to road-test his car.



MOTOR SCOOTERS are getting lighter and cheaper to run. The "Scootercycle" made by Mead Cycle Co., Chicago, uses aircraft tubing for the frame, and ready to ride weighs only 83 lb. Future plans are to reduce the weight to 50 lb. It is said to run 100 miles on a gallon of gas. The engine is $1\frac{1}{2}$ hp, and develops 35 m.p.h. Levers under the handle bars operate gas and brake pedals. The clutch is automatic, leaving the feet free. A wire delivery basket can be mounted over the front wheel.



AUTO IDEAS



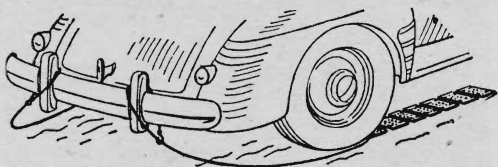
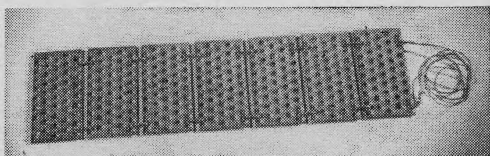
FIGHTING A FIRE

FILLING A TIRE

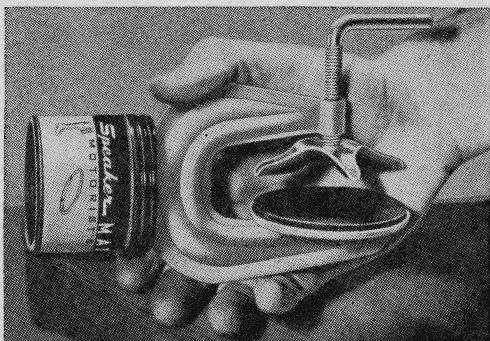
"BOTTLED POWER" in a small cylinder has been marketed to help drivers in two automobile emergencies—fires and flat tires. The "power" is carbon dioxide, well known as an effective gas for putting out fires, but new as a gas for filling tires. A small hose connects the cylinder to the tire valve. According to Beacon Devices, manufacturer of the gadget, the gas actually prolongs tire life by preventing oxidation of the rubber. The gas is odorless and will not stain clothes.

AUTO IDEAS

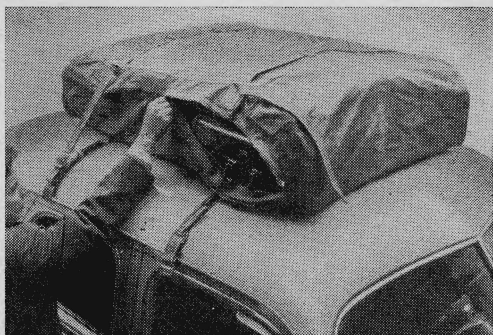
STEEL RUNWAYS. Patterned after the mats used on wartime airfields, these linked steel plates aid in freeing a car bogged in mud, sand, or snow. They can be folded up to take little space in the luggage compartment, and have cables that can be looped over the bumper so the driver can tow them along behind until he reaches firm ground. The plates may also be employed as wheel chocks and as jack platforms on soft shoulders. The Morton Manufacturing Co., of Chicago, makes them.



A LUGGAGE CARRIER that fits on the roof of a car is one answer when the luggage compartment in the rear won't hold all the equipment for a vacation or fishing trip. The carrier is a simple canvas bag, made by the Kari-Top Co., Dayton, Ohio, and is adjustable to fasten securely to any coach or sedan roof. A zipper closes the bag and keeps out rain and dust. When not in use, the carrier can be easily removed and folded compactly into a small box, which can be stowed away in the car or garage.

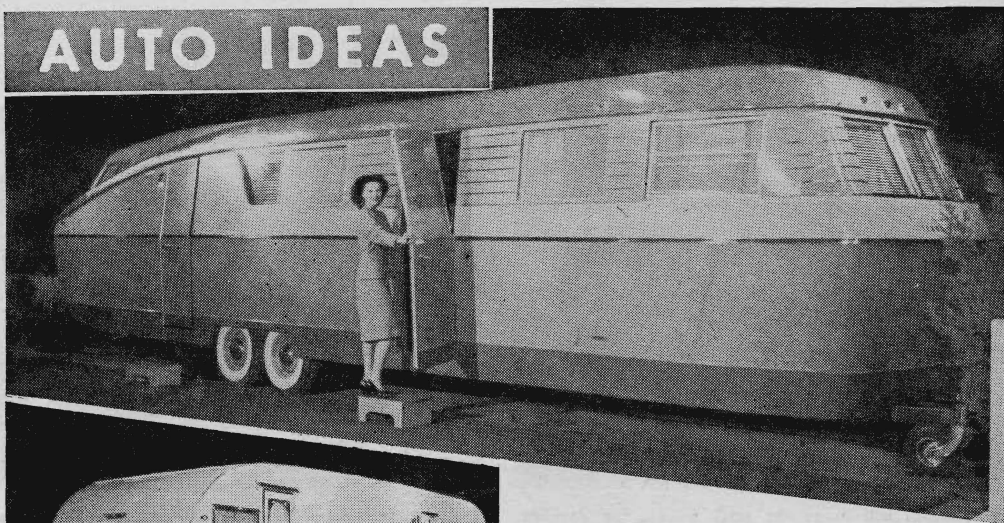


A RUBBER GROUND strip for carrying off static electricity from fuel and other trucks has been developed by the U.S. Rubber Co. Made of a special conductive rubber, the strip grounds the frame so any static electricity can pass off harmlessly. Besides being noiseless, the rubber is said to wear longer than the conventional chain.



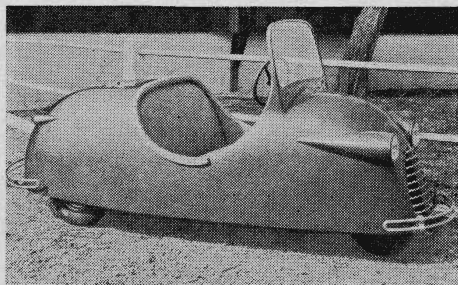
VULCANIZING A TUBE can be done out on the road with the kit made by J. S. Speaker Corp., of Milwaukee, Wis. A buffer and three patches, with heat units and metal pans, are carried inside the can. The vulcanizer is attached to the top of the can. A tube is buffed, clamped in the vulcanizer with a patch, and the heat unit lighted. Heat and pressure make a well-cured joint between the patch and tube in the same way tubes are repaired with the larger vulcanizing equipment commonly used in shops and garages.

AUTO IDEAS



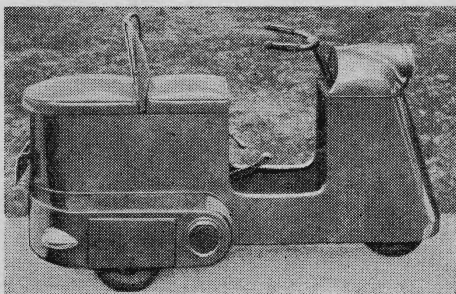
LONG, LONG TRAILERS. Almost comparable to a four-room house, the trailer at the top is the "Terra Cruiser," a 38' model with an all-electric kitchen, a bedroom-living room, and a bathroom with a shower. The

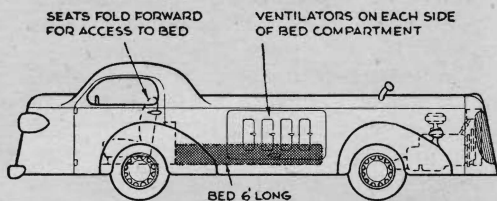
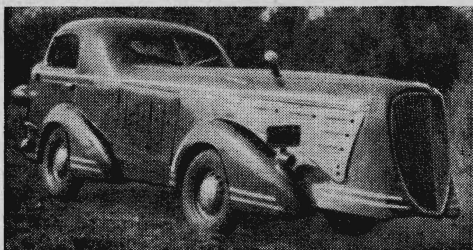
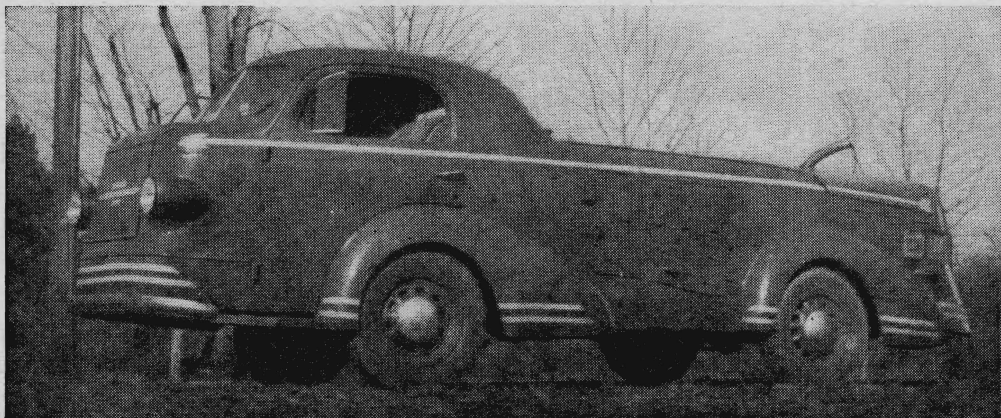
living room, with sofa and chairs, fireplace, and indirect lighting, is built at the rear and has windows like the observation car of a train. Shown in the smaller photo is a 35' "Shoreland Tandem," which has four rooms, hot and cold running water, and an air-conditioning unit. The couple pictured are about to enter the living room, while the door at the rear leads to the bedroom. According to the manufacturers of both trailers, they can be towed by standard passenger cars without difficulty.



PINT-SIZED AUTOS are planned or in production by numerous manufacturers in various parts of the country. The two shown here are the automotive hopes of the B & B Specialty Co., of Rossmoyne, Ohio. At top is the "Brogan," a low and light job—less than 4' high to the top of windshield, and weighing 450 lb. It uses a tricycle wheel arrangement with front-

wheel steering. A two-cylinder 10-hp. engine is placed at the rear on a special spring mount. Gasoline consumption is 65 to 70 miles per gal. and the top speed is 45 to 50 m.p.h. "The Broganette," below, fits into the motor-scooter class with its 3-hp. engine and handle-bar steering. Speed and mileage figures for this car: 35 to 40 m.p.h. and 85 miles per gal.

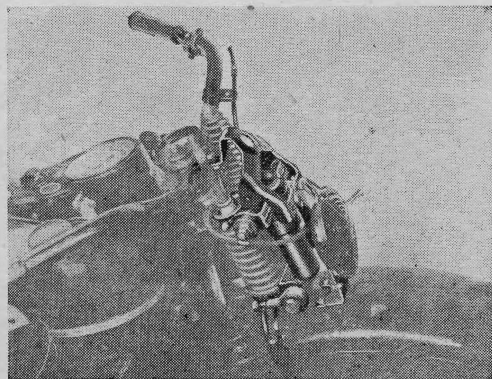
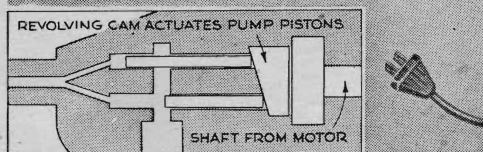
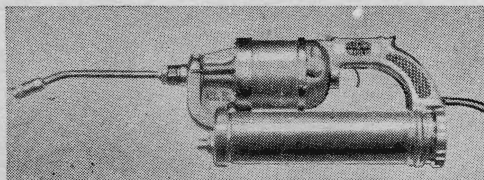




A ONE-BEDROOM CAR is the product of William M. Jones, a Camden, N. Y., mechanic who likes to take his wife and two children along when he goes fishing and hunting. He built the patchwork car shown above in his own welding shop with parts from Chevrolet, Buick, Pontiac, Studebaker, Terraplane, and Ford autos. It uses a Ford V-8 engine and a clutch operated by a bi-

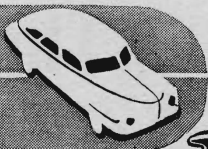
cycle chain and sprocket. Jones has a list of reasons why he prefers the engine in the rear: the driver has a clear view of road, the car is cooler in summer and free of engine fumes, and the rear wheels have good traction. If you'd like to build one for yourself, you'll need your own welding shop, a shrewd eye for buying parts from a junk yard, \$250, and two months of work.

HYDRAULIC SHOCK ABSORBERS will appear on some motorcycles now scheduled for production. Mounted between handle bars and front-axle fork, the absorber damps out road shocks. Monroe Auto Equipment Co., Monroe, Mich., is the manufacturer.



ELECTRIC GREASE GUN. With a motor to do the work, this gun forces out grease at a pressure of 10,000 lb. per sq. in. The motor turns a cam that works four pistons (insert above shows two), pumping grease from the 1-lb. magazine. By using aluminum, John W. Hobbs Corp., Springfield, Ill., cut the weight to 7 lb.

AUTO HINTS



1. CORNSTARCH PUTS A SHINE

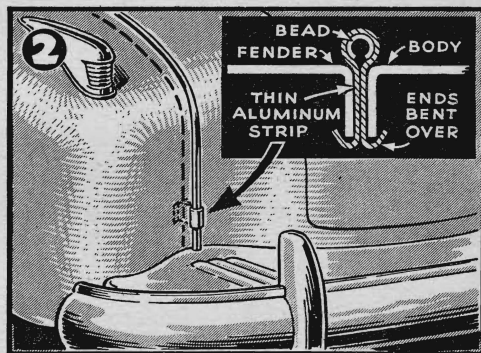
on a car with a minimum of elbow grease. Try sprinkling a little on after you have applied the polishing wax and before you do the rubbing. You'll find that the task of producing a durable luster is considerably simplified. The cornstarch comes off with the rag, which should be shaken out often during the rubbing.—R. H. E.



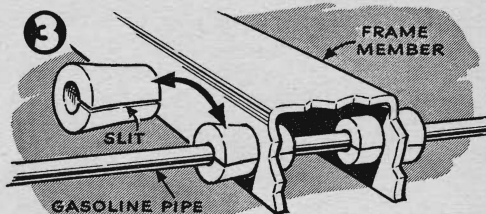
RUB ON WAX AS USUAL...

2. LOOSE FENDER BEADING may be anchored in place with narrow strips of aluminum bent over the beading and under the fender and body, as shown in the drawing. This is a good way of retaining beading that threatens to come off because of rotted fabric or damage to the fender or body.—W. E. L.

DUST CORN STARCH ON WAX...POLISH

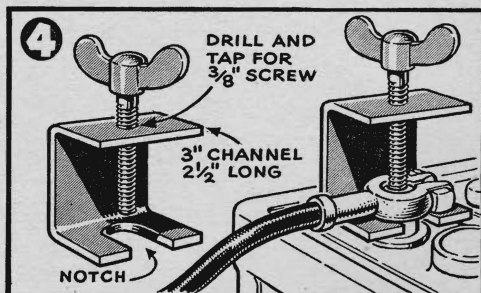


3. GAS-LINE RATTLES sometimes occur when the pipe joggles against frame members through which it passes. An easy remedy is to use rubber corks, drilled, split, and inserted as shown. They will not only stop rattles but will also prevent vibration and possible failure of the line.—A. H. W.

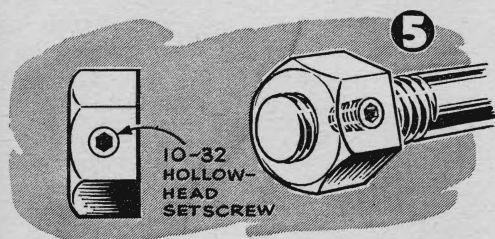


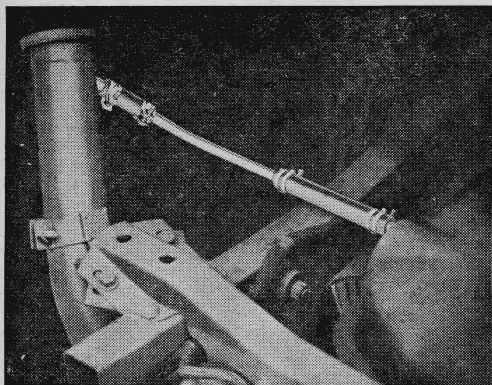
Drawings by STEWART ROUSE

4. TIGHT CABLE LUGS can be pulled off without straining battery posts by means of this simple puller. The notch in the length of channel stock goes around the post and under the terminal. A thumbscrew or a bolt and wrench will serve.—A. H. W.

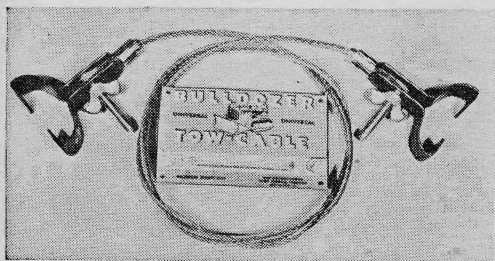


5. THEFT OF ACCESSORIES can be made difficult with this homemade lock nut. Few thieves will have a wrench for the hollow-head setscrew that locks the nut. The setscrew should be flush and should engage a dimple drilled in the stud.—T. K.

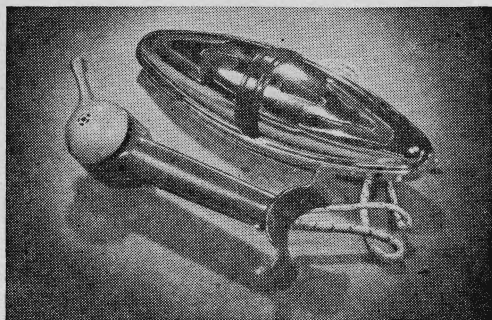
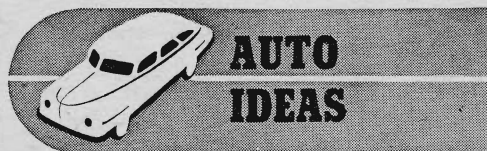




PREVENTION OF GAS LOSS through spilling and evaporation when the tank is being filled is the object of an air-pressure relief pipe leading from the tank to the filler pipe on the new 1947 Studebakers. The relief pipe releases air that would otherwise cause the gasoline to foam and gurgle as the level rises in the tank. It was designed after a study of waste from this cause.



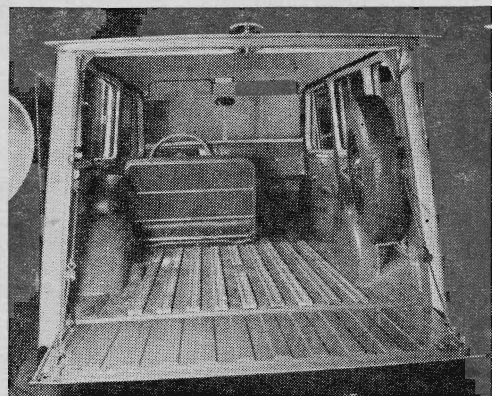
JEEP STATION WAGONS have joined the Willys-Overland procession of jeeps revamped for civilian uses. This model has an all-steel body, the 63-hp. jeep engine, and a new chassis and running gear. The body is finished to resemble mahogany and maple, but the only wood used in construction is maple for floor runners to facilitate



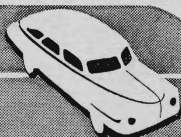
RIGHT AND LEFT TURNS are signaled by an arrow that lights up on the back of the car when the driver flicks a switch attached to the steering post or on the instrument board. The accessory is manufactured by the U. S. Metal Products Co., of Brooklyn, N. Y.

NEW LIGHTWEIGHT TOW CABLES are equipped with clamping jaws that can be attached to the bumper simply by tightening a wing nut. A woman can easily put one on. The cables are galvanized as a protection against rust and come in three sizes, with minimum breaking strength of about 2,000 lb. for the smallest size. They are a product of the Wind Turbine Company, of West Chester, Pa.

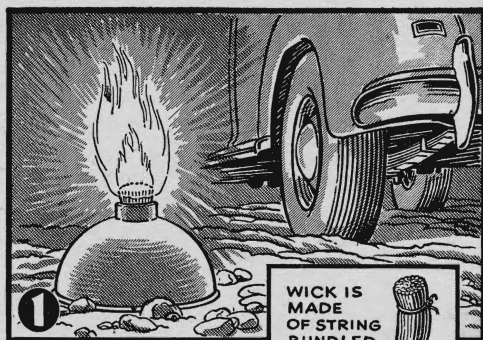
loading and unloading. Removable, waterproof seats will carry six riders besides the driver. The interior can be hosed clean.



AUTO HINTS

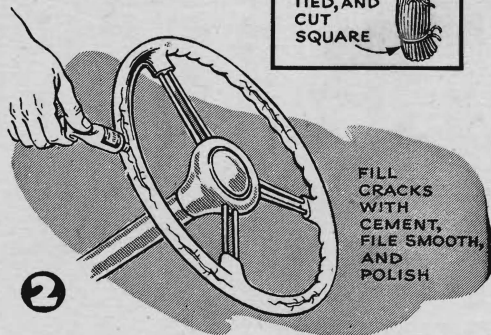


1. THIS ROADSIDE FLARE, a good warning light for nighttime highway stops, is made from the bottom of an old oilcan. The wick is cotton wrapping cord tied into a bundle of the diameter of the hole and cut square at both ends. Kerosene is good fuel. A bottle cap covers the wick when the flare is not in use.—H. K.



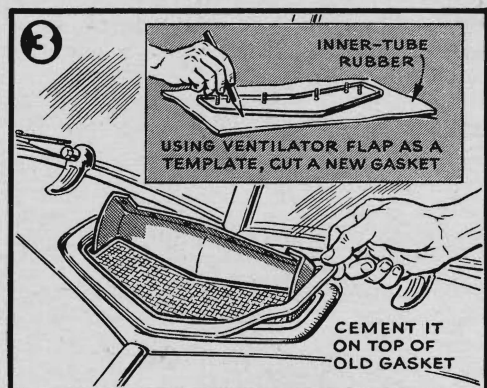
WICK IS
MADE
OF STRING
BUNDLED,
TIED, AND
CUT
SQUARE

2. STEERING-WHEEL CRACKS can be filled with clear cellulose cement so they won't be noticed. Scrape out and clean the cracks in the plastic and force in the cement in one or more applications. File and polish when dry.—W. A. W.



FILL
CRACKS
WITH
CEMENT,
FILE SMOOTH,
AND
POLISH

3. LEAKS IN A VENTILATOR are best repaired with a new gasket, which can be cut from an old inner tube. Remove the ventilator flap, trace and cut a $\frac{1}{2}$ " gasket, and cement it to the old rubber. Replace the flap, put some wax on the new gasket, and close the flap to provide pressure.—D. Z.

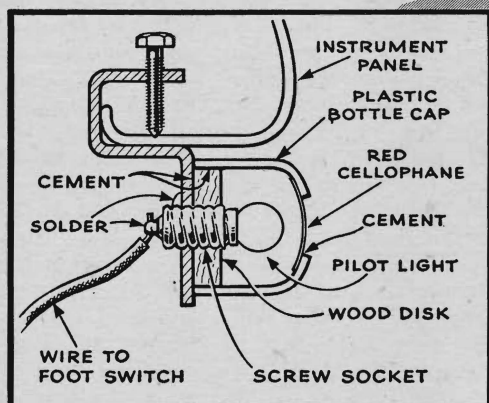


INNER-TUBE
RUBBER
USING VENTILATOR FLAP AS A
TEMPLATE, CUT A NEW GASKET

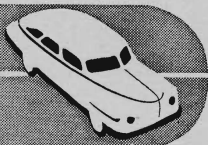
CEMENT IT
ON TOP OF
OLD GASKET

4. WIRING A HEADLIGHT INDICATOR on the dashboard is simply a matter of carrying a wire from it to the high-beam terminal on the foot switch. A pilot-light fixture may be purchased or made up from a steel clamp, machine screw, wood disk, socket, and a plastic bottle cap.—A. W. C.

Drawings by STEWART ROUSE



AUTO HINTS

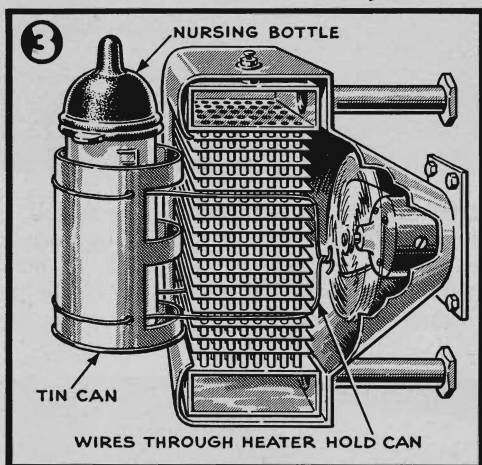
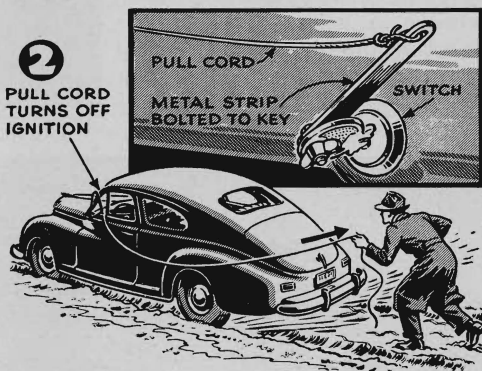
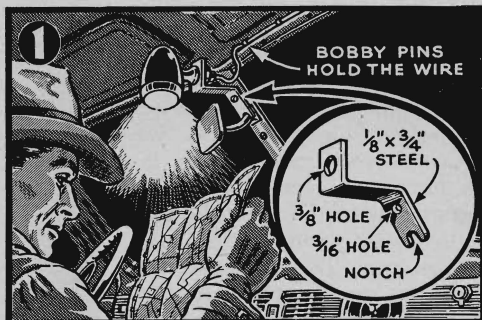


1 LIGHT UP FRONT for reading road maps and the like can be supplied by an inexpensive parking lamp mounted on a bracket above the rear-view mirror and connected to the car wiring system. A toggle switch should be wired in the circuit.—W. D. S.

2 REMOTE IGNITION CONTROL is an important safeguard if you push a stuck car. Use a metal strip bolted to the key and attached to a cord that can be pulled to turn the switch off. Then, when you're alone and stuck in slush or mud, you can push the car yourself with the motor in low gear and still turn off the ignition instantly.—H. K. F

3 HEATING A BABY'S MILK while on a motor trip can be simplified by wiring a bottle holder to the car heater. Use a tin can to hold the bottle and cut out part of one side to admit heat. Run wires through holes and around the top and bottom and then through fins of the heater, twisting them together at the back—C. W. N.

4 BOOSTING A WEAK BATTERY with current from a strong one is a trick performed with a length of heavy battery cable and two heavy-duty spring clips. Place the bumpers in firm contact for a common ground and attach the cable to the ungrounded terminals. The engine of the car with the strong battery should be kept running at a good charging speed. Make sure that the grounded sides of both batteries are of the same polarity.—J. H. D.



Drawings by STEWART ROUSE

